Evolution of Session RPE and fatigue during a long term nutritional intervention in one professional basketball player

Bonfanti, N; Lorenzo Calvo, A; Gómez Ruano, MA

Faculty of Physical Activity and Sports Science, Polytechnic University of Madrid, Spain

Some evidence shows that the rate of perceived exertion of one session (RPE-S) and fatigue (Fat) of athletes can be decreased by the intake of carbohydrates (HCO) during exercise. However, it is well known that professional athletes do not meet nutritional recommendations (NR) but a long-term nutritional intervention (NI) can improve their dietary intake (DI). What is not known is whether these long-term changes in DI can influence RPE-S and Fat of training. Our aim was to conduct a long term NI to adapt the DI of one professional basketball player to current NR and evaluate the influence of these changes on long-term RPE-S and Fat. A single-case design study was conducted with one professional basketball player: Spanish ACB League, center, healthy, 24 years, 111.4 Kg weight (W) and 2.11 m height. It was carried out a long term NI (2 months) in order to meet NR (GSSI 2013). Pre and post NI: DI was assessed (7-day food record), sports nutrition knowledge (NK) survey was applied (Reilly & Maughan, unpublished manuscript, 2007) and body composition (BC) was evaluated by anthropometry (ISAK). RPE-S and Fat (before/after training; to get up/at bedtime) was recorded daily during 1-month pre-NI and 2-month during NI. Statistics: DI, KN, BC, RPE-S and Fat were analyzed by a comparison of mean (Wilcoson test) between pre and post NI and pre and during NI respectively. Pre NI, total energy intake (TEI) was below the estimated total energy expenditure (TEE) (3980 vs. 4800 Kcal/day) and CHO intake was low in comparison with NR (3.7 vs.7-12 g/Kg W). Protein (P) intake was adequate (1.4 vs. 1.2-1.7 g/Kg W/day). Total fat (TF) intake was at the maximum value (35 vs. 20-35% TEI) and saturated fat (SF) intake was above NR (11 vs. < 10% TEI). Ethanol (Eth) consumption was excessive (43 vs. 20g Eth/day). Post NI: TEI (4259 kcal) increased but not reached TEE. CHO intake (5.1 g/Kg W/day) were improved ($p < .05$). P intake remained unchanged (1,4 g/Kg W/day) and both TF and SF intake decreased to 26% ($p < .05$) and 8% TEI respectively achieving the NR. Eth intake decreased to 10 g/day ($p < .05$) and it was an improvement in NK. During NI, both RPE-S and all variables regarding fatigue were decreased. RPE-S and fatigue related to training of a one professional basketball player could be reduced through a long term personalized nutritional intervention that adequate his diet to NR.